INDUSTRIES OF THE FUTURE

BestPractices

Training

January 2001

OFFICE OF INDUSTRIAL TECHNOLOGIES

ENERGY EFFICIENCY AND RENEWABLE ENERGY, U.S. DEPARTMENT OF ENERGY

Benefits

Training in compressed air, motor, pump, steam, and process heating systems will help attendees:

- Cut operating costs
- Improve reliability
- Decrease maintenance
- Improve environmental performance

Eligibility

BestPractices training from DOE is offered on a resource-available basis and is focused on support to the OIT Industries of the Future (IOF). Sessions targeted at specific industry needs are organized in conjunction with IOF companies, industrial associations, Allied Partners, and state organizations who have been designated as a State IOF.

In addition to DOE training, BestPractices Allied Partners also offer training in various systems areas.

All open DOE or Allied Partner training sessions are posted on the BestPractices Web site.

For training information or scheduled dates, call the OIT Clearinghouse at (800) 862-2086 or access the BestPractices Web site at www.oit.doe.gov/bestpractices.

Training Sessions Provide Ways to Improve Industrial System Efficiency

Interested in improving the efficiency of your plant's compressed air, motor, pump, steam, and process heating systems? The U.S. Department of Energy's (DOE) Office of Industrial Technologies (OIT) offers training sessions and materials to help you reduce energy use, save money, and minimize waste through system optimization.

Compressed Air System Training Sessions

Fundamentals of Compressed Air Systems — 1-day workshop

Find out how a compressed air system works and the benefits of optimal compressed air system performance. This first class demonstrates how to compute the current cost of your plant's compressed air systems, how to measure and create a baseline of system performance, and how to determine the impact of different compressor control types. Learn basic approaches for cutting costs; identify steps for proper system operation, maintenance, and point-of-use accountability; and tailor a compressed air system management action plan for your plant.

Advanced Management of Compressed Air Systems — 2-day workshop

Learn what data and tools are necessary to measure and assess the efficiency and cost-effectiveness of a compressed air system. This advanced course in compressed air system management teaches you to develop a system profile and address point-of-use issues, including determining actual air quality requirements, investigating and reducing highest point-of-use pressure requirements, and addressing high-volume intermittent applications. In addition, you will learn how to implement a compressed air system maintenance program, determine different compressor control strategies, align the supply-side to demand-side operation, and gain an understanding of the value of heat recovery. Participants will also gain knowledge on how to successfully present project proposals to management. (Note: Participants are strongly encouraged to take the Fundamentals workshop first.)

Motor System Training Sessions

Adjustable Speed Drive Application — 1-day workshop

Discover more about motors, centrifugal loads, and motor speed and efficiency. This course examines how an adjustable speed drive (ASD) functions and explains common ASD configurations. Also covered are common problems encountered with ASDs, along with their symptoms and solutions. During the course, you will learn how to use *ASDMaster* software to identify potential ASD applications and to assist in preparing bid specifications. You will receive summary information about how the software works and several sample case studies, and you will learn which questions a user should ask when designing an ASD system. The course concludes with a discussion of how the software program prepares a sample specification.

Pump System Training Sessions

Pump System Assessment — 1-day workshop

Learn more about pump system performance characteristics. This course discusses performance problems encountered in everyday applications. The workshop covers practical issues involved in field measurements of fluid and electrical data and presents the *Pump System Assessment Tool* (PSAT) used to assess the performance of pump systems. Learn how the software functions, what data is required, how to use the software when measured data are not available, and what the assessment results mean. This training is also offered through Allied Partners.

Steam System Training Sessions

Steam System Improvement — 1-day workshop

Explore the operation of steam systems and learn how steam system efficiency can be improved. This course covers steam generation, utilization, leaks, and distribution. Discover how to obtain optimum steam generation efficiency from your boiler and learn about steam utilization including multi-pressure system operation and balancing. Reduce loss in your steam system by learning more about operation, selection, and testing of steam traps. The course also investigates the distribution system and focuses on heat loss and condensate return issues.

Additional Training Coming Soon

Fan System Performance Assessment — 1-day workshop

Find out more about fan system performance characteristics and the practical issues involved in field measurements of fluid and electrical data. This workshop presents the fundamentals of the *Fan System Assessment Tool* (FSAT) used to assess the performance of operating fan systems. Learn how the software functions, what data is required to use FSAT, and what the assessment results mean.

Motor Systems Management — 4-hour workshop

Explore good practices for optimizing electric motor efficiency in industrial plants. This course, which focuses on a motor management system, identifies which motors can be treated via an asset management system and which should be examined individually. The course presents *MotorMaster+* software for help in making decisions about motor management.

Optimization of Process Heating Systems — 1-day workshop

Discover how typical process heating systems operate and how to improve heating system efficiency. This course examines five major areas that comprise a process heating system: heating devices that generate and supply heat; heat transfer devices that move heat from the source to the product; heat containment devices; heat recovery devices; and other support systems, including sensors and controls, material handling, process atmosphere supply and control, emission control, and other auxiliary systems.

Training Coming Soon From Our Allied Partners

AirMaster Training — 2-day workshop

AirMaster software, developed by DOE in cooperation with the Compressed Air Challenge®, assists in evaluating compressed air systems. This course is designed for compressed air professionals who wish to use the software when performing plant assessments of their compressed air systems. The workshop presents the software methodology, describes how to collect field data, demonstrates how to enter data, and discusses how to interpret the results.

Insulation Assessment — 2-day workshop

Learn how to quantify the benefits of optimal insulation thickness. Learn to gather field data to conduct an insulation audit and a facility walk-through. The course presents *3E Plus* software, describes the data input process, and demonstrates how the software can be used to analyze data and determine optimal insulation thickness.

BestPractices is part of the Office of Industrial Technologies' (OIT's) Industries of the Future strategy, which helps the country's most energy-intensive industries improve their competitiveness. BestPractices brings together the best-available and emerging technologies and practices to help companies begin improving energy efficiency, environmental performance, and productivity right now.

BestPractices focuses on plant systems, where significant efficiency improvements and savings can be achieved. Industry gains easy access to near-term and long-term solutions for improving the performance of motor, steam, compressed air, and process heating systems. In addition, the Industrial Assessment Centers provide comprehensive industrial energy evaluations to small and medium-size manufacturers.

FOR ADDITIONAL INFORMATION, PLEASE CONTACT:

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